

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A mobile terminal, comprising:

a codec configured to perform a converting operation between analog voice data and digital voice data;

a camera module connected to a camera installed within the mobile terminal, the camera module configured to perform a converting operation between analog image data and digital image data;

a direction sensor configured to detect ~~compass orientation~~ direction data associated with an image located in a photographing direction of the camera, wherein the direction data is formatted in two consecutive bytes, wherein ~~the a~~ a first byte provides of the two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and the wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte provides of the two consecutive bytes is configured to provide compass bearing information, the compass bearing

information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte;

a voice/image communication apparatus configured to multiplex or demultiplex the direction data ~~and at least one of converted,~~ the voice or data and the image data;

a display module configured to simultaneously display the image from demultiplexed based on the image data and the direction data from the voice/image communication apparatus together as a single image, wherein the direction data is displayed on the image to indicate the compass heading information and the compass bearing information associated with the image;

a speaker configured to output the voice data demultiplexed by the voice/image communication apparatus; and

a control unit configured to control the codec, the camera module, the voice/image communication apparatus, and the display module, wherein the control unit checks whether a direction displaying mode has been selected and controls the display module to display the ~~demultiplexed~~ image data and the direction data simultaneously as a single image when the direction ~~display~~ displaying mode is selected.

2. (Canceled)

3. (Previously Presented) The mobile terminal of claim 1, wherein the voice/image communication apparatus comprises:

a multiplexing processing unit configured to multiplex or demultiplex direction data and at least one of converted voice or image data to display multiplexed image and direction data on the display module;

a voice encoding processing unit configured to encode voice data input from the codec or convert voice data transmitted from the multiplexing processing unit into data for transmitting to a speaker;

an image encoding processing unit configured to encode image data input from the camera module or convert image data transmitted from the multiplexing processing unit into data for displaying on the display module; and

a direction displaying processing unit configured to encode direction data input from the A/D converter or convert direction data transmitted from the multiplexing processing unit into data for displaying on the display module.

4. (Previously Presented) The mobile terminal of claim 3, wherein the direction displaying processing unit calculates a compass orientation direction and encodes the calculated compass orientation direction by formatting the calculated compass orientation direction into a binary value.

5. (Previously Presented) The mobile terminal of claim 3, wherein the direction displaying processing unit displays the direction data in a direction displaying area at one side of a screen of the display module.

6. (Previously Presented) The mobile terminal of claim 3, wherein the direction displaying processing unit displays the direction data as a direction on a screen of the display module.

7. (Previously Presented) The mobile terminal of claim 3, wherein the direction displaying processing unit displays the direction data as a direction on a screen of the display module in the form of a compass.

8. (Previously Presented) The mobile terminal of claim 3, wherein the multiplexing processing unit multiplexes encoded packet data by receiving the data from the voice encoding processing unit, image encoding processing unit, and direction displaying processing unit, and inputs the data to an image frame by forming a flag and header to distinguish the image frame.

9. (Previously Presented) The mobile terminal of claim 3, wherein the multiplexing processing unit is further configured to form a null data set if no data is transmitted thereto.

10. (Currently Amended) A method for displaying image data and direction data of a ~~photographing~~ an object being photographed on a screen of a mobile terminal, the method comprising:

receiving ~~image~~ data at a receiving unit of the mobile terminal, the image data being associated with the ~~photographing~~ object;

demultiplexing, at a demultiplexing unit of the mobile terminal, the ~~image~~ data and separating the image data into at least one of image or data, voice data and compass orientation direction data, comprising receiving at the demultiplexing unit a first byte of ~~compass orientation~~ direction data that provides a compass heading and receiving at the demultiplexing unit a second byte of ~~compass orientation~~ direction data that provides a compass bearing wherein the direction data is formatted in two consecutive bytes, wherein a first byte of the two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte of the two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte;

checking, at a checking unit of the mobile terminal, the demultiplexed data ~~for to~~
~~determine~~ a setting of a direction displaying mode ~~from a direction displaying processing unit of~~
~~the mobile terminal; determining a position of the photographing object and a method for~~
~~displaying corresponding image and compass orientation direction data on the screen of the~~
~~mobile terminal from the direction displaying processing unit if the direction displaying mode is~~
set; and

displaying the ~~separated image and compass orientation~~the direction data
simultaneously as a single image on the screen of the mobile terminal ~~in the determined position~~
~~and determined method under control of a controller, wherein the compass orientation data is~~
~~displayed within the image on the screen of the mobile terminal, the compass orientation~~
~~direction data being associated with a direction of the image, the image being located in a~~
~~photographing direction of a camera of the mobile terminal~~if the direction displaying mode is
set.

11. (Previously Presented) The method of claim 10, wherein a multiplexing processing unit checks the received image data and forms a null data set if the image data is not separable.

12. (Previously Presented) The method of claim 10, wherein displaying separated image and compass orientation direction data further comprises detecting the demultiplexed image data and compass orientation direction data and transmitting said detected data to an image encoding processing unit and the direction displaying processing unit, respectively.

13. (Previously Presented) The method of claim 10, wherein image data read from a voice/image communication apparatus is displayed on the screen of the mobile terminal if the direction displaying mode is not set in the direction displaying processing unit.

14. (Previously Presented) The method of claim 10, wherein the direction displaying processing unit displays the compass orientation direction data in a direction displaying area at one side of the screen of the mobile terminal.

15. (Previously Presented) The method of claim 10, wherein the direction displaying processing unit displays the compass orientation direction data as a direction on the screen of the mobile terminal.

16. (Previously Presented) The method of claim 10, wherein the direction displaying processing unit displays the compass orientation direction data as a direction on the screen of the mobile terminal in the form of a compass.

17. (Previously Presented) The method of claim 10, wherein the displaying comprises a transmitted stop image.

18. (Previously Presented) The method of claim 10, further comprising displaying time and date information with the image and compass orientation direction data on the screen of the mobile terminal.

19-25. (Cancelled)

26. (Previously Presented) The mobile terminal of claim 1, further comprising a transceiver configured to transmit and receive multiplexed data to and from an external device.

27. (Previously Presented) The mobile terminal of claim 1, wherein the control unit is configured to synthesize the demultiplexed image data and direction data.

28. (Previously Presented) The mobile terminal of claim 1, wherein the image data comprises a moving picture.

29. (Currently Amended) A mobile terminal, comprising:
a display;

a receiving unit configured to receive multiplexed data including image data and ~~compass orientation~~ direction data associated with the image data, wherein the receiving unit receives the direction data, voice data and the image data in a packetized format, wherein ~~a first portion of the packetized direction data is provided between the packetized voice data and the packetized image data, and a second portion of the packetized direction data is provided between first and second portions of the packetized image data~~ the direction data is formatted in two consecutive bytes, wherein a first byte of the two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte of the two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte;

a demultiplexing unit configured to demultiplex the multiplexed data into the image data and ~~compass orientation~~ the direction data;

a checking unit configured to check whether a direction displaying mode is set;
and

a controller configured to control the display so as to display the image data and the ~~compass orientation~~ direction data simultaneously as a single image when the checking unit verifies that the direction display mode is set.

30. (Previously Presented) The mobile terminal of claim 29, wherein the demultiplexed image data and compass orientation direction data are synthesized by the controller and displayed on the display.

31. (Previously Presented) The mobile terminal of claim 30, wherein the image data comprises moving picture data.

32. (Currently Amended) A method of displaying direction information associated with an object being photographed by a camera phone on a screen of the camera phone, the method comprising:

collecting packetized direction data, packetized voice data, and packetized image data in the camera phone ~~related to~~ associated with the object being photographed, ~~comprising~~ ~~collecting direction data, voice data and image data in a packetized format,~~ wherein a first portion of the packetized direction data is provided between the packetized voice data and the packetized image data, and a second portion of the packetized direction data is provided between ~~first and second portions of~~ the packetized image data;

~~demultiplexing the collected data and separating image data related to the appearance of the object being photographed from compass orientation data of the object being photographed~~packetized direction data, the packetized voice data, and the packetized image data into direction data, voice data, and image data, respectively, wherein the direction data is formatted in two consecutive bytes, wherein a first byte of the two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte of the two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte;

displaying a representation of the object being photographed on the screen of the camera phone based on the ~~collected and separated~~ image data; and

displaying the ~~compass orientation~~direction data of the object being photographed on the screen of the camera phone, superimposed on the representation of the object being photographed displayed on the screen such that the image data and the ~~compass orientation~~direction data are displayed together as a single image.

33. (Previously Presented) The mobile terminal of claim 1, wherein the voice/image communication apparatus receives direction data, voice data and image data in a packetized format, wherein a first portion of the packetized direction data is provided between the packetized voice data and the packetized image data, and a second portion of the packetized direction data is provided between first and second portions of the packetized image data.

34. (Previously Presented) The method of claim 10, wherein receiving image data comprises receiving direction data, voice data and image data in a packetized format, wherein a first portion of the packetized direction data is provided between the packetized voice data and the packetized image data, and a second portion of the packetized direction data is provided between first and second portions of the packetized image data.

35. (Previously Presented) The mobile terminal of claim 29, wherein the compass orientation direction data is formatted in two bytes, wherein the first byte provides compass heading information and the second byte provides compass bearing information.

36. (Previously Presented) The method of claim 32, wherein collecting data related to an object being photographed comprises collecting compass orientation direction data formatted in two bytes, wherein the first byte provides compass heading information and the second byte provides compass bearing information.